

# LAB-D Series

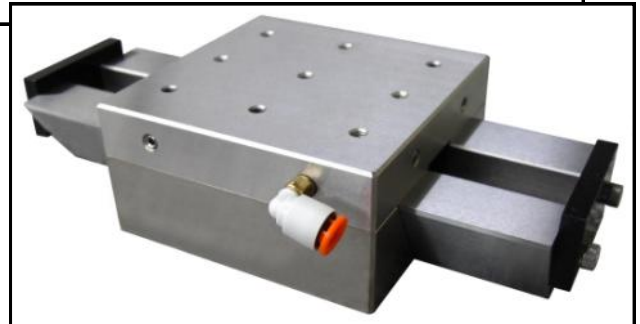
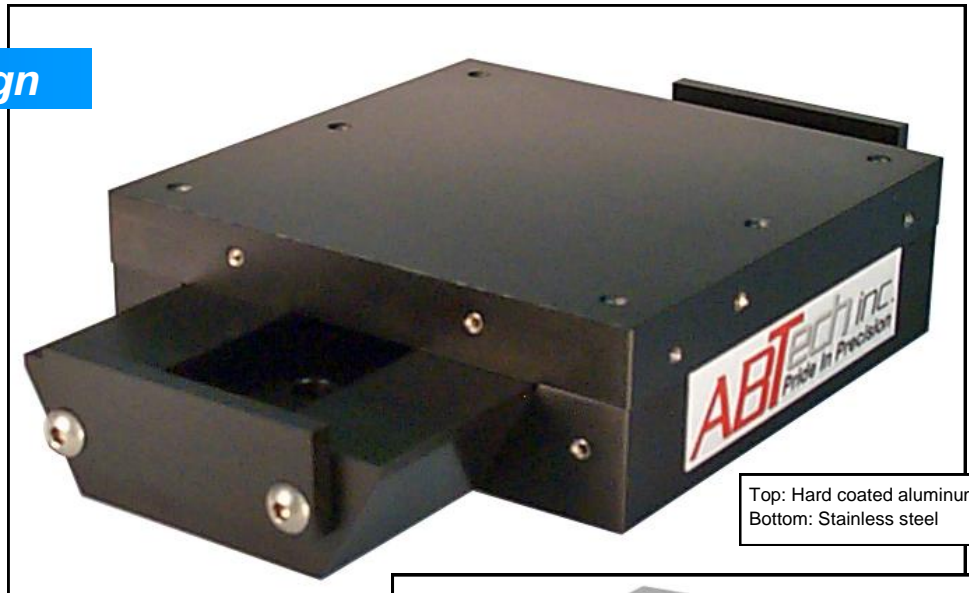
## Linear Air Bearing Stages

### Dovetail Rail Design

**ABTech inc.** offers ultra-precision fully constrained air bearing linear stages, with continuously supported dovetail rail design. LAB series stages are engineered and precisely lapped to match the rail and carriage angled sides, eliminating the need for pivoting air bearing pads and creating larger bearing areas for increased stiffness.

For applications requiring exacting linear straightness measurements, linear positioning, high velocity, constant velocity and linear systems requiring no static friction. LAB series linear stages are ideal modular components for wafer scanning systems, computer-to-plate systems, linear measurement and vision systems.

**ABTech's** modular design approach and complete engineering support capabilities can respond quickly to provide a solution to your O.E.M. needs for ultra-precision linear motion.



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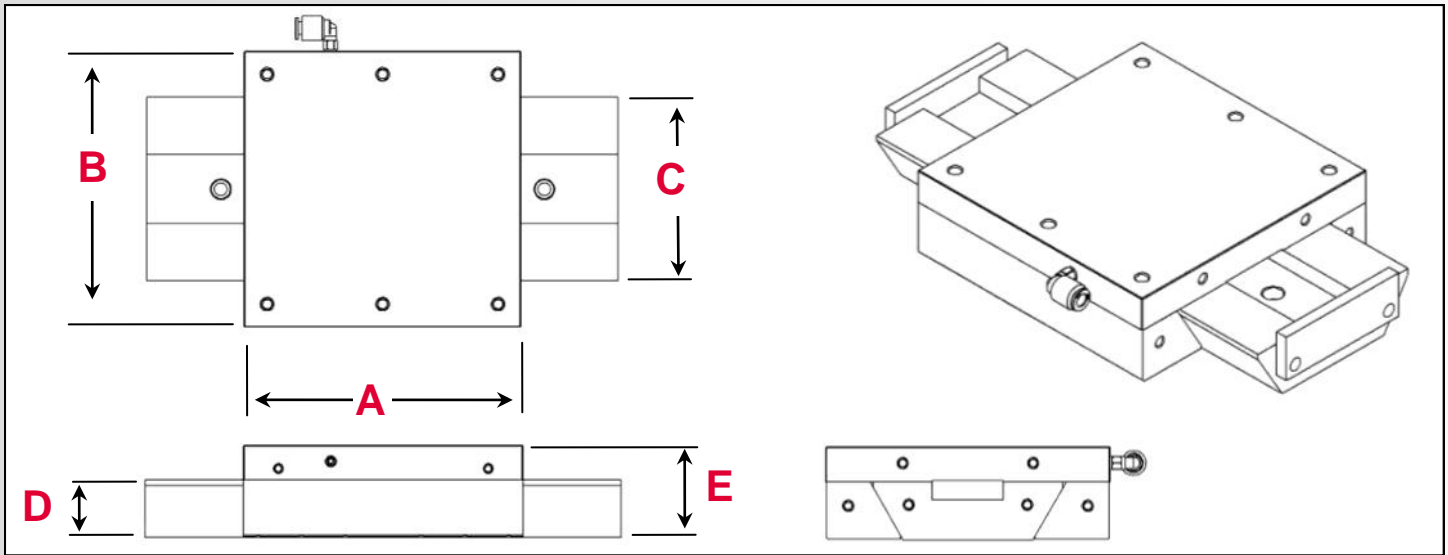
P.O. Box 10296  
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Swansey, NH 03446

### Features:

- Precision matched dovetail design
- Ultra-smooth motion with no static friction
- High load capacity and stiffness with low air consumption
- Two accuracy grades available for cost effective design
- Air bearing carriages in hard coated aluminum or stainless steel
- Available in custom rail lengths and carriage sizes
- Modular design – custom systems can be provided for O.E.M.
- Optional motor drives, encoders, drive amplifiers and controls
- Made in USA

# Specifications

## LAB-D Series Linear Air Bearing Dovetail Stages



	LAB-4D	LAB-6D	LAB-8D	LAB-10D
<b>Carriage Length (A)</b>	4.00" (101.6 mm)	6.00" (152.4 mm)	8.00" (203.2 mm)	10.00" (254 mm)
<b>Carriage Width (B)</b>	4.00" (101.6 mm)	6.00" (152.4 mm)	8.00" (203.2 mm)	10.00" (254 mm)
<b>Rail Width (C)</b>	2.60" (66.0 mm)	4.00" (101.6 mm)	6.00" (152.4 mm)	7.50" (190.5 mm)
<b>Rail Height (D)</b>	1.23" (31.2 mm)	1.25" (31.75 mm)	1.50" (38.1 mm)	2.25" (57.15 mm)
<b>Total Stage Height (E)</b>	1.97" (50.0 mm)	1.97" (50.0 mm)	3.0" (76.2 mm)	4.00" (101.6 mm)
<b>Slide Travel</b>	1-20" (25-508 mm)	1-42" (25-1067 mm)	1-42" (25-1067 mm)	1-42" (25-1067 mm)
<b>Vertical Load Capacity*</b>	55 lbs (25 Kg)	100 lbs (45.4 Kg)	150 lbs (68 Kg)	300 lbs (136.1 Kg)
<b>Horizontal Load Capacity*</b>	22 lbs (10 Kg)	50 lbs (22.7 Kg)	75 lbs (34 Kg)	150 lbs (68 Kg)
<b>Air Usage</b>	0.5 scfm (0.85 m <sup>3</sup> /h)	1.0 scfm (1.7 m <sup>3</sup> /h)	1.5 scfm (2.55 m <sup>3</sup> /h)	2.0 scfm (3.4 m <sup>3</sup> /h)

Accuracy Class	Straightness of Travel
<b>A1*</b>	5.0 μ"/ln (0.125 μm/25.4mm)*
<b>A2</b>	15.0 μ"/ln (0.375 μm/25.4mm)

\* Depending upon desired travel length, A1 accuracy for LAB-4D stages may require an elongated carriage design  
 ~Special accuracies can be supplied  
 ~Consult ABTech for the best solution for your application

### Options & Accessories:

- Aluminum and stainless steel carriages
- Aluminum, stainless steel, ceramic and granite rails (granite rails in A2 accuracy only)
- Motor drives and controllers
- Electronic indicators, amplifiers and gage stands
- Granite plates and base stands
- Dual element filter/regulator
- Custom hole pattern & end mounting

### Ordering Information:

To order by model number:



\* Maximum load capacities—consult ABTech for recommendations on practical loads  
 ~Load capacities are estimated at the center of the carriage in both directions  
 ~Slide performance can be affected by method of mounting the rail and loading  
 ~Consult ABTech's applications engineers for moment loading and stiffness considerations  
 ~Specifications are at 60 psi (4 kgf/cm<sup>2</sup>)  
 ~Specifications are subject to change without notification